

Cornus sericea

Cornaceae family

Red-osier dogwood, redosier dogwood, creek dogwood, western red osier, red-twig dogwood, American dogwood

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Description: *Cornus sericea* is a fast-growing, many-stemmed, deciduous, shrub to tree. Leaves emerge before flowering. Flowers are obligate outcrossers, self-sterile; pollinated by insects. Plants become mature at 3-4 years old. Reproduction by seed and vegetatively. Vegetative regeneration occurs by layering of decumbent or prostrate stems, by stolons, and by root sprouting. Can be thicket-forming. One source describes this species as monoecious (having male and female flowers separate on one plant).

Variation: *Cornus sericea* has several recognized varieties having overlapping distribution. Described as a 'highly variable complex' with many local forms; subspecies intergrade widely. Many cultivars have been developed in the horticultural trade.

Size: Grows to 3-20 ft. (1-6 m) tall, with greater or equal width.

Leaves: Leaves opposite, simple, petiolate. Leaf blades/lamina lanceolate to ovate to elliptic-ovate; 1.6-6 in. (4-15 cm) long; 1-3.5 in. (2.5-9 cm) wide; apex acuminate; margins entire; venation pinnate, 4-7 lateral pairs of veins, veins arcuate; upper surface medium to dark green; lower surface paler green, finely pubescent; petioles 0.5-1 in. (1.3-2.5 cm) long.

Inflorescence: A flat-topped cyme; 1.5-2.5 in. (3.8-6.4 cm) in diameter.

Flowers: Flowers 0.08-0.1 in. (0.2-0.3 cm) in diameter. Calyx more or less fused at base, sepal/lobes 4; petals 4, white to cream, 0.08-0.2 in. (0.2-0.45 cm) long; stamens 4; style 1; pale yellow to red-tinged nectar disk surround the base of the style.

Fruit: A drupe; globose, 0.3-0.4 in. (0.7-0.9 cm) long, white to bluish, fleshy, topped by a black dot formed by a persistent dark style and nectar disk, glabrous to pubescent. Stone smooth to grooved on face, furrowed on sides; 1-2 seeds.

Bark: Young branches bright reddish to reddish-purple, more or less glabrous to minutely strigose, numerous light lenticels; becoming grayish-green with age (in spring), glabrous.

Young bark turns red in winter. Mature plants develop larger cracks and splits, and turns light brown.

Roots: *Need info.

Habitat: *Cornus sericea* grows in moist soils, especially streamsides, swamps, low meadows, floodplains, moist forests, forest openings, and understories; it prefers rich, moist, poorly drained soils. Suppressed by shade.

Species distribution in US states: AK, AZ, CA, CO, CT, DE, IA, ID, IL, IN, KY, MA, ME, MI, MN, MT, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SD, UT, VA, VT, WA, WI, WV, WY

Species images:

Whole plant:

http://msuplants.com/images/Cornus/Cornuseri_AF06_Jun4.jpg

<http://www.forestryimages.org/images/768x512/5001040.jpg>

<http://www.cas.vanderbilt.edu/bioimages/biohires/c/hcoses-wp35318.JPG>

http://www.uwgb.edu/biodiversity/herbarium/shrubs/corsto_aspect02.jpg

Bark:

red phase:

http://biology.burke.washington.edu/herbarium/imagecollection/wtu1500-1999/lg/wtu001522_lg.jpg

<http://www.forestryimages.org/images/768x512/1219092.jpg>

older:

<http://www.cas.vanderbilt.edu/bioimages/biohires/c/hcoses-br30981.JPG>

twigs:

<http://www.cas.vanderbilt.edu/bioimages/biohires/c/hcoses-twsummer35326.JPG>

http://msuplants.com/images/Cornus/CornuseriBaileyi_DS01_Jul19.jpg

Leaf:

<http://www.cas.vanderbilt.edu/bioimages/biohires/c/hcoses-lf35324.JPG>

http://extension.usu.edu/forestry/UtahForests/TreeID/Assets/Images/M600/lm_redgwd_lf.jpg

Leaf underside:

http://biology.burke.washington.edu/herbarium/imagecollection/wtu15500-15999/lg/wtu015848_lg.jpg

Colored leaves:

<http://extension.usu.edu/forestry/UtahForests/TreeID/Assets/Images/cor-2.16.jpg>

http://msuplants.com/images/Cornus/Cornuseri_SA02b_Oct1.jpg

http://biology.burke.washington.edu/herbarium/imagecollection/wtu12500-12999/lg/wtu012829_lg.jpg

with fruit:

<http://extension.usu.edu/forestry/UtahForests/TreeID/Assets/Images/cor-1.3.jpg>

Buds:

http://biology.burke.washington.edu/herbarium/imagecollection/wtu17000-17499/lg/wtu017065_lg.jpg

http://msuplants.com/images/Cornus/Cornuseri_HT10_Apr6.jpg

Inflorescence:

http://biology.burke.washington.edu/herbarium/imagecollection/wtu1500-1999/lg/wtu001520_lg.jpg

http://msuplants.com/images/Cornus/Cornuseri_OF90_Jun4.jpg

Flowers:

http://biology.burke.washington.edu/herbarium/imagecollection/wtu1500-1999/lg/wtu001521_lg.jpg

http://biology.burke.washington.edu/herbarium/imagecollection/wtu12500-12999/lg/wtu012832_lg.jpg

flowering into early fruit development:

http://msuplants.com/images/Cornus/Cornuseri_OF94_Jun4.jpg

Fruit:

immature:

http://calphotos.berkeley.edu/cgi/img_query?query_src=photos_index&enlarge=0000+0000+1207+1013

<http://www.hort.uconn.edu/Plants/c/corser/corser1.html>

mature:

http://calphotos.berkeley.edu/cgi/img_query?query_src=photos_index&enlarge=0000+0000+0506+1757

http://extension.usu.edu/forestry/UtahForests/TreeID/Assets/Images/M600/lm_redgwd_fr.jpg

Expected timing of growth stages:

Flowering: May-August, depending on location.

Bud swell: *Need info.

Bud break: *Need info.

Leaf out: *Need info.

Leaf/canopy development: *Need info.

Bud formation: *Need info.

Fruit development: *Need info.

Fruit ripening: August-September.

Seed dispersal: *Need info.

Leaf coloration: Autumn. *Need info.

Leaf fall: *Need info.

Phenophases to be monitored for NPN:

Leaf out

- *First leaf*
In at least 3 locations on the plant, the very first green tip of a young leaf has visibly moved out of the leaf bud.

Flowering

- *First flower*
In at least 3 locations on the plant, a flower has opened completely. Flowers are considered 'opened' when the reproductive parts are visible between unfolded or opened flower parts.
- *Full flower [Intensive only]*
The plant has reached its peak floral display. This occurs when half (50%) of the flowers on the whole plant have opened completely.
- *Last flower*
The last visible flower has opened completely and is still fresh.

Leaf elongation

Note: These measures can be difficult to estimate without a few seasons of practice.

- *25% leaf elongation [Intensive only]*
The majority of young leaves have unfolded completely and have expanded to one-quarter (25%) of their mature size. Leaf elongation may also be estimated by viewing

the canopy as a whole. At 25% leaf elongation, the canopy appears to be approximately one-quarter (25%) full.

- *50% leaf elongation* [**Intensive only**]
The majority of young leaves have unfolded completely and have expanded to half (50%) of their mature size. Leaf elongation may also be estimated by viewing the canopy as a whole. At 50% leaf elongation, the canopy appears to be approximately half (50%) full.
- *75% leaf elongation*
The majority of young leaves have unfolded completely and have expanded to three-quarters (75%) of their mature size. Leaf elongation may also be estimated by viewing the canopy as a whole. At 75% leaf elongation, the canopy appears to be approximately three-quarters (75%) full.
- *Full leaf elongation* [**Intensive only**]
The majority of young leaves have unfolded completely and have expanded to 95-100% of their mature size. At full leaf elongation, the canopy appears to have reached its full density.

Fruit ripening

- *First fruit ripe*
In at least 3 locations on the plant, a fruit has become ripe. For *Cornus sericea*, a fruit is considered ripe when it is white to bluish in color or when it has been eaten by wildlife.
- *50% of fruit ripe* [**Intensive only**]
For the whole plant, half (50%) of the fruits are ripe.
- *All fruit ripe* [**Intensive only**]
For the whole plant, virtually all (95-100%) of the fruits are ripe.

Leaf color change

Note: If drought seems to be the cause of leaf color change for a plant, please make a comment about it for that plant.

- *First leaf colored* [**Intensive only**]
In at least 3 locations on the plant, the green leaves have begun to change to their late season colors.

- *25% of leaves colored* [**Intensive only**]
For the whole plant, one-quarter (25%) of the leaves (including any that have fallen to the ground) have changed to their late season colors.
- *50% of leaves colored*
For the whole plant, half (50%) of the leaves (including any that have fallen to the ground) have changed to their late season colors.
- *75% of leaves colored* [**Intensive only**]
For the whole plant, three-quarters (75%) of the leaves (including any that have fallen to the ground) have changed to their late season colors.
- *All leaves colored*
For the whole plant, virtually all (95-100%) of the leaves (including any that have fallen to the ground) have changed to their late season colors and there is virtually no green left in the leaves.

Leaf fall

Note: If drought seems to be the cause of leaf fall for a plant, please make a comment about it for that plant.

- *First leaf fallen* [**Intensive only**]
In at least 3 locations on the plant, a leaf easily falls off into your hand when touched or gently handled. First leaf fallen may also be indicated by the presence of at least 3 leaves on the ground below the plant (that are not apparently from another individual nearby).
- *25% of leaves fallen* [**Intensive only**]
For the whole plant, one-quarter (25%) of the leaves have fallen.
- *50% of leaves fallen*
For the whole plant, half (50%) of the leaves have fallen.
- *75% of leaves fallen* [**Intensive only**]
For the whole plant, three-quarters (75%) of the leaves have fallen.
- *All leaves fallen*
For the whole plant, virtually all (95-100%) of the leaves have fallen.

Did you know? *Cornus sericea* is used medicinally and in cancer therapy; its twigs/branches are also used to make baskets. Native Americans prepared a dye from the plant, ate the berries, and dried and smoked the leaves. It is a useful plant for site rehabilitation due to its ease of propagation and ornamental assets.

Bibliography:

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http://www.windows.ucar.edu/citizen_science/budburst/participate_plants.php#red_osier_dogwood

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Notes

The USDA PLANTS symbol for this plant is COSE16.

The ITIS Taxonomic Serial No. for this species is 501637.

BBCH codes for phenophases used for this plant are available from the USA-NPN office upon request.

Proposed modifications, updates or corrections to this protocol are welcome; please direct correspondence to the USA-NPN National Coordinating Office.

USA-NPN Plant Phenology Protocol, *Cornus_sericea_v1.0(beta).doc*

Prior versions of this species protocol will be made available in a documents library on USA-NPN webpage.

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Protocol compiler: Patty Guertin, Lisa Benton

Reviewers:

USA National Phenology Network

National Coordinating Office

1955 East 6th Street

Tucson, AZ 85719

www.usanpn.org